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ABSTRACT OF THE DISCLOSURE

1 Disclosed is a topographic measurement system wherein at least one
2 satellite is used to scan the earth surface and send picture frames of a target
3 area captured at different positions to an earth station. The picture frames
4 are combined to produce a number of pairs of frames which constitute a
5 stereoscopic image of the target area. Each frame pair is analyzed according
6 to a number of visual characteristics and evaluated with a set of fitness values
7 representative of the degrees of fitness of the frame pair to topographic
8 measurement of the target area. A total of the fitness values is obtained from
9 each frame pair and compared with the total values of other frame pairs. A
10 frame pair having the highest total value is selected as a best pair. A parallax
11 between the best pair frames is determined to produce first and second sets of
12 line-of-sight vectors for conversion to topographic data.